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## Review of the Argentinean species of *Pseudomicrocara* Armstrong (Coleoptera: Scirtidae)

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### Abstract

The *Pseudomicrocara* Armstrong from Argentina are reviewed. In total, seven species are present: *Pseudomicrocara angusta* **sp. nov.**, *P. antarctica* (Fairmaire) **comb. nov.**, *P. hieroglyphica* **sp. nov.**, *P. inflexipenis* **sp. nov.**, *P. livida* (Fabricius), *P. obliquata* (Solier) **comb. nov.**, and *P. patagonica* (Curtis) **comb. nov.** New provincial records are provided for several species. *Pseudomicrocara obliquata*, previously known only from Chile, is recorded from Argentina for the first time. Illustrations of habitus and genitalia as well as distributional data for all Argentinean species of *Pseudomicrocara* are provided.

**Key words:** marsh beetles, new species, new combinations, new records, Neotropical

### Introduction

The genus *Pseudomicrocara* Armstrong, 1953 was erected to accommodate six species of Australian Scirtidae previously placed in the Palaearctic genus *Elodes* Latreille as well as 11 new species. Watts (2007) revised the genus and currently 40 species are recognized from Australia.

During the 19<sup>th</sup> century and the beginning of the 20<sup>th</sup> century several Chilean and Argentinean scirtid species were described in the European genera *Cyphon* Paykull, *Elodes* Latreille and *Microcara* Thomson (Fabricius 1775; Curtis 1838; Solier 1849; Fairmaire 1883; Bourgeois 1900; Pic 1918). Recently, Ruta (2011) stated that most of these species are in fact closely related to *Pseudomicrocara*.

The purpose of the present study is to review the Argentinean species of *Pseudomicrocara* (including three new species), to provide detailed descriptions and illustrations of habitus and genitalia, and to update the distribution ranges of the species.

Chilean members of *Pseudomicrocara* will be revised in a separate paper (in preparation).

### Material and methods

The type specimens of previously described species were examined and almost 500 additional unidentified specimens were studied. Numerous specimens were collected in Nahuel Huapi National Park (Neuquén and Río Negro Provinces) using a Malaise trap, and in Aldea Escolar (Chubut Province) using a light trap, and are deposited in MLP, NHM and PCML. Numerous specimens collected by A. Kovacs (deposited in NHM) and during Danish expeditions to Argentina (deposited in ZMUC) were also studied. It shall be noted that Argentinean localities were mistakenly ascribed to Chile by Kovacs.

## Depositories:

IADIZA	Instituto Argentino de Investigaciones de las Zonas Áridas, Mendoza, Argentina
MLP	Museo de La Plata, Buenos Aires, Argentina
MNHN	Muséum national d'Histoire naturelle, Paris, France
NHM	Natural History Museum, London, United Kingdom
PCML	Private collection of María Laura Libonatti, Laboratorio de Entomología, Departamento de Biodiversidad y Biología Experimental, Facultad de Ciencias Exactas y Naturales, Universidad de Buenos Aires, Argentina
ZMUC	University of Copenhagen, Zoological Museum (Natural History Museum of Denmark), Copenhagen, Denmark

In order to study detailed morphology of genitalia and mouthparts, dried specimens were relaxed in water for ca. 6–12 hours (not necessary in the case of specimens preserved in 70% ethanol), the mouthparts and abdomens were removed and abdomens were transferred to a 10% NaOH solution overnight. Then the genitalia were removed, washed with distilled water and transferred into glycerine (female genitalia), gum-chloral (Swann's) medium (male genitalia) or polyvinyl-lacto-glycerol (PVLG) (mouthparts). Female genitalia were additionally placed in a glycerine solution of chlorazol black to stain membranous structures. Structures were observed, measured and photographed using a Nikon Eclipse E600 compound microscope combined with a Nikon Coolpix 4500 camera (genitalia) or a Sony DSC-W530 camera adapted to an Olympus CX41 compound microscope (mouthparts). After taking the photographs, the slides were remounted, and the genitalia were washed with distilled water and glued on cardboards with a solution of polyvinyl alcohol. The final images were generated using Helicon Focus (5.3.5 Pro or 5.3.7) software and enhanced using Adobe® Photoshop 7.0 CE.

Measurements were taken using a micrometer eyepiece mounted on a Leica MZ6 stereoscopic microscope or an Olympus CX41 compound microscope. Total length (TL) was measured in dorsal view from the anterior margin of pronotum to the elytral apex. Elytral width (EW) was measured in dorsal view at the widest part of the elytra. Elytral length (EL) was measured in lateral view from the anterior margin of scutellum to the elytral apex. Pronotal width (PW) was measured in dorsal view at the widest part of the pronotum. Pronotal length (PL) was measured along its median axis. Head width (HW) was measured in dorsal view at the widest part of the head. Interocular space was measured in dorsal view at the minimum distance between the eyes. Clypeal length was measured in dorsal view from the anterior margin to the antennal base. Length (L) and width (W) of antennal segments were measured and L/W of each antennal segment was calculated. Ratio of antennal segments was calculated as the quotient between the length of each antennal segment and the length of the shortest antennal segment. The shape of the pronotum was determined in dorsal view directly above the centre of pronotum. Punctuation was observed under a Leica MZ6 stereoscopic microscope using diffused light coming from above at an angle of about 45°, and the distances between punctures were measured relative to the diameter of the punctures.

Terminology used for male aedeagus of Scirtidae follows Yoshitomi (2005), who simplified the terminology of Nyholm (1972). The scirtid aedeagus consists of: a dorsal tegmen which is bilobed (parameres) and tends to wrap around the front part of penis; a ventral penis which consists of a basal piece (= pala of Nyholm, 1972), paired parameroids and a trigonium (= trigonium + centema of Nyholm, 1972); and paired styli (not present in all species).

## Results

### *Pseudomicrocara* Armstrong, 1953

*Pseudomicrocara* Armstrong, 1953: 19–32 (n. gen. Type species: *Pseudomicrocara orientalis* Armstrong, 1953, by original designation).

*Pseudomicrocara*: Watts 2007: 1–80 (revision of Australian species); Ruta 2011: 1689–1713 (Chile).

**Diagnosis.** Pronotum rectangular or trapezoidal, anterolateral angles rounded. Prosternal process laminar. Mandibles with an area of spines on molar region. Segment 3 of labial palpi arising from apex of segment 2 (in several Australian species segment 3 arising from the lateral portion of segment 2). Front edge of paraglossa

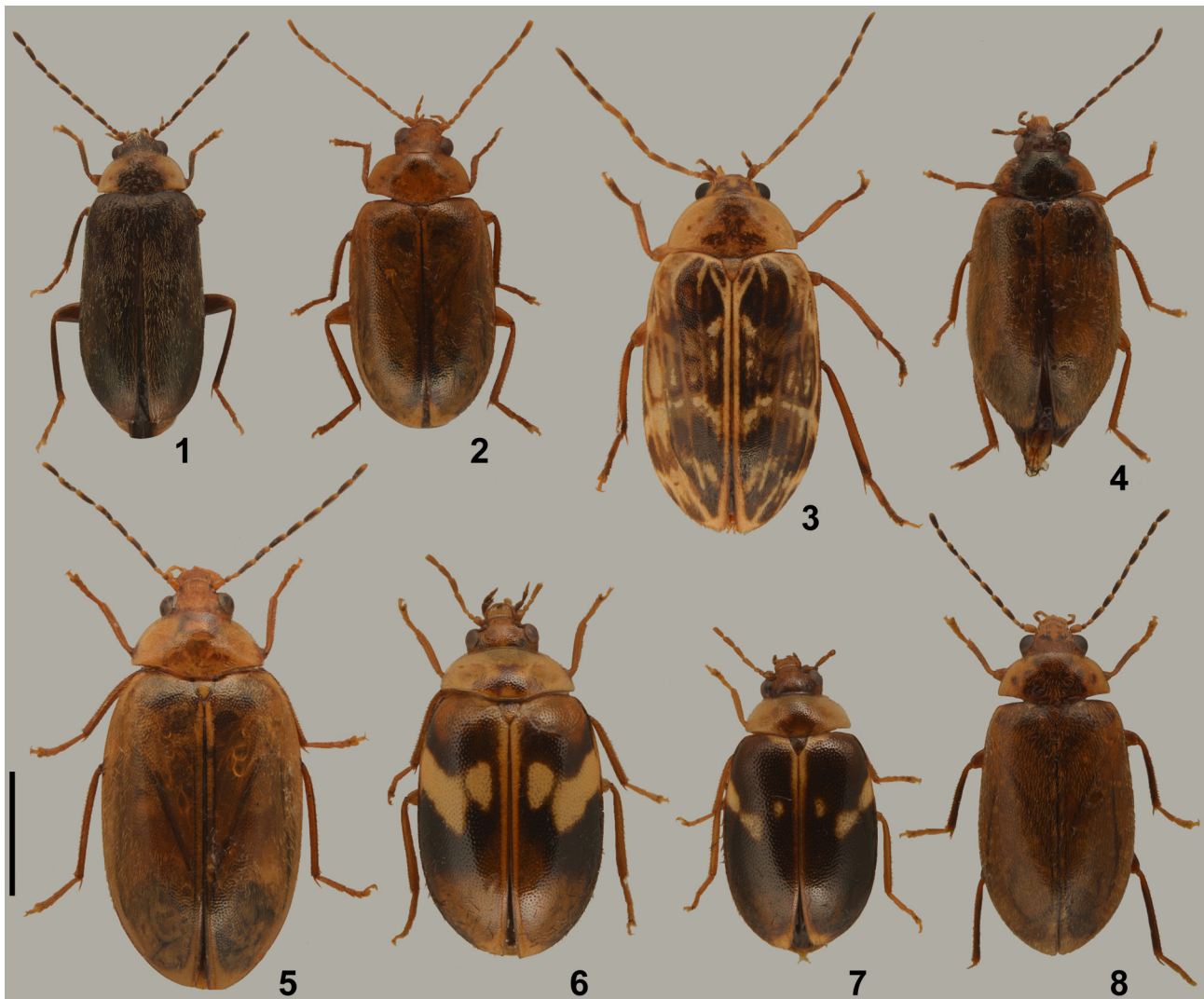
bilobed. Aedeagus symmetrical. Penis composed of a basal piece (pala), paired parameroids and an apical simple trigonium (apex bifid in some cases). Tegmen composed of two parameres broad at base, narrowing to the apex. Styli present in most species. Ventricle 4 bearing a dense patch of setae in females of several species. Hind femora not saltatorial.

***Pseudomicrocara angusta* sp. nov.**

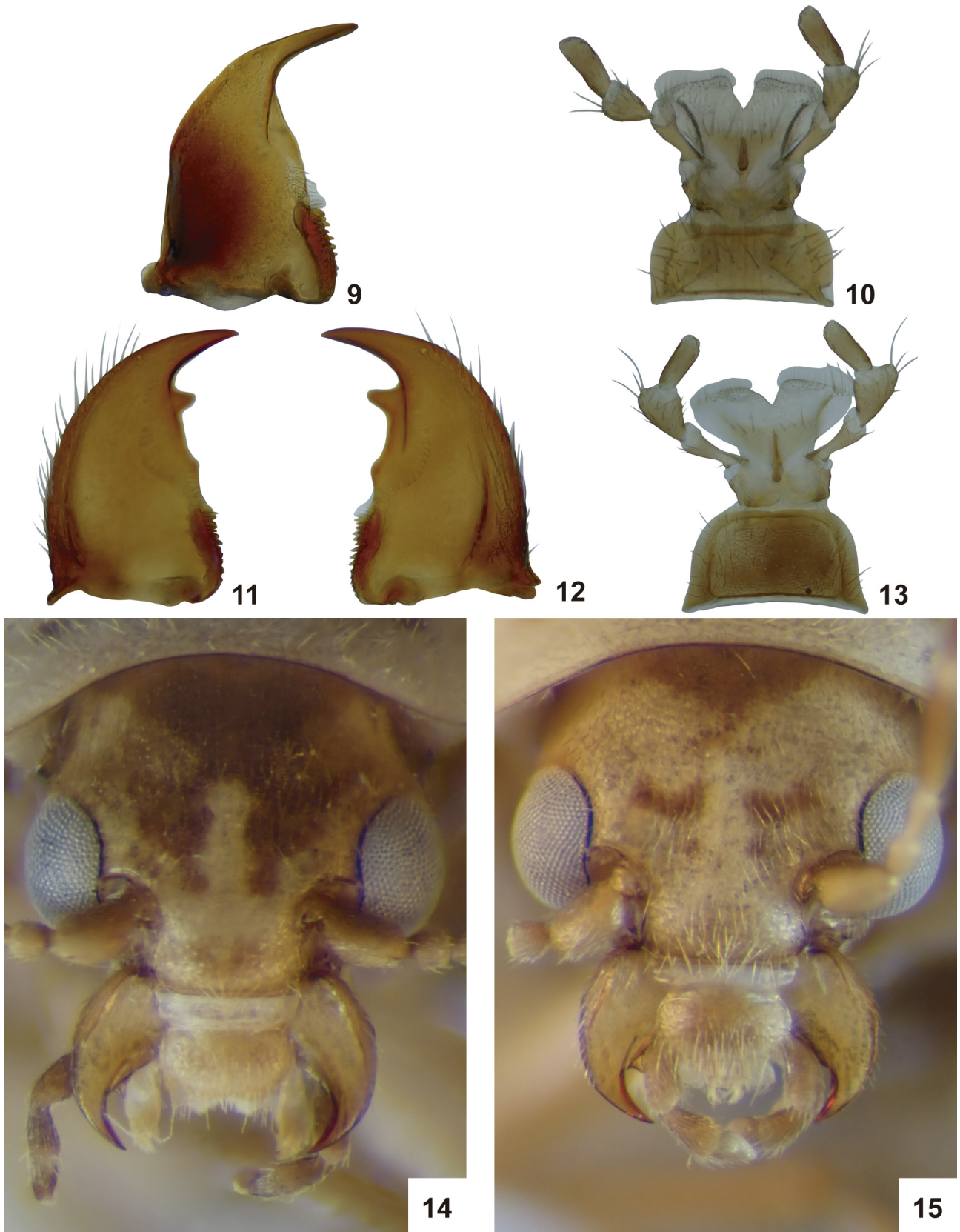
(Figs. 1, 9, 10, 27, 34, 35, 47, 59, 60–65)

**Type material. Holotype, female (MLP):** Parque Nacional Nahuel Huapi, Río Manso inferior, Arroyo Las Vertientes, 10.xi–1.xii.2008, Malaise, leg. Analía Garré & Fernanda Montes de Oca.

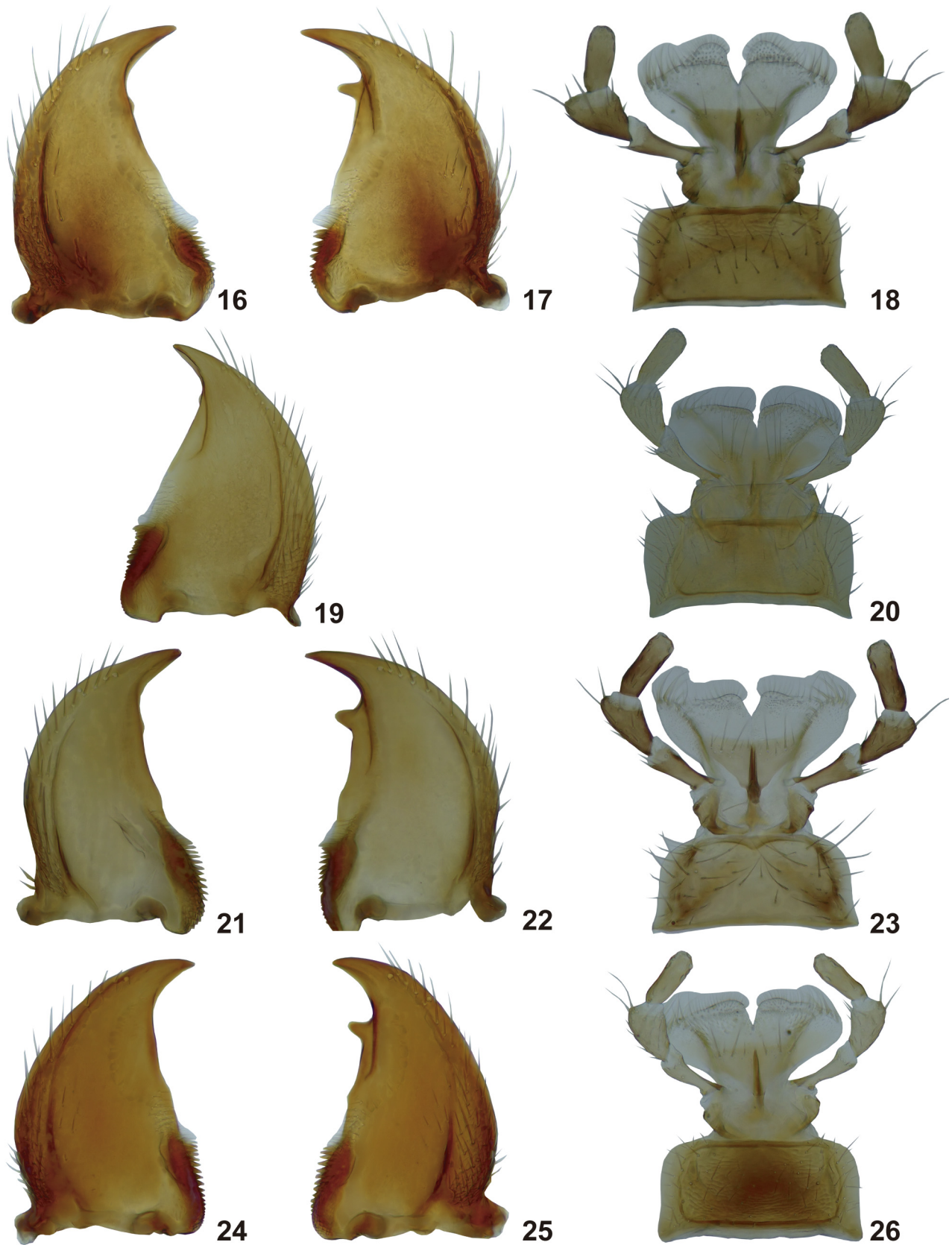
**Paratypes. 1 ex. (MLP, male):** same data as holotype. **2 exx. (NHM, male & female):** Parque Nacional Nahuel Huapi, Arroyo Grande, 41° 02' 21.6" S 71° 48' 27" W, 763 m, 4–25.ii.2007, Malaise, leg. Analía Garré & Fernanda Montes de Oca. **1 ex. (NHM):** El Bolsón, 4.xi.1960, A. Kovacs. **1 ex. (NHM):** El Bolsón, 17.x.1961, A. Kovacs. **2 exx. (NHM):** El Bolsón, 20.x.1961, A. Kovacs. **1 ex. (NHM):** El Bolsón, 4.xi.1961, A. Kovacs. **1 ex. (NHM):** El Bolsón, 21.ix.1962, A. Kovacs. **2 exx. (NHM):** El Bolsón, 29.x.1962, A. Kovacs. **6 exx. (NHM):** El Bolsón, 4.xi.1962, A. Kovacs. **7 exx. (NHM):** El Bolsón, 24.xi.1962, A. Kovacs. **1 ex. (NHM):** El Bolsón, 28.xi.1962, A. Kovacs. **3 exx. (NHM):** El Bolsón, 3.xii.1962, A. Kovacs. **1 ex. (NHM):** Lago Puelo, 8.ii.1961, A. Kovacs.



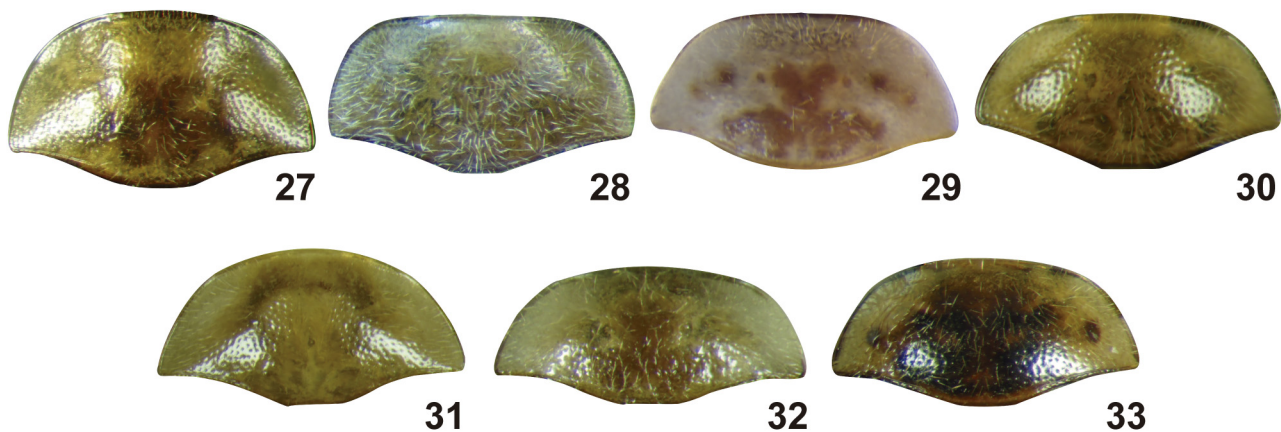
**FIGURES 1–8.** Habitus illustrations of Argentinean species of *Pseudomicrocara*, dorsal view. 1) *P. angusta* sp. nov.; 2) *P. antarctica*; 3) *P. hieroglyphica* sp. nov.; 4) *P. inflexipennis* sp. nov.; 5) *P. livida*.; 6–7) *P. obliquata*; 8) *P. patagonica*. Scale bar = 1 mm.



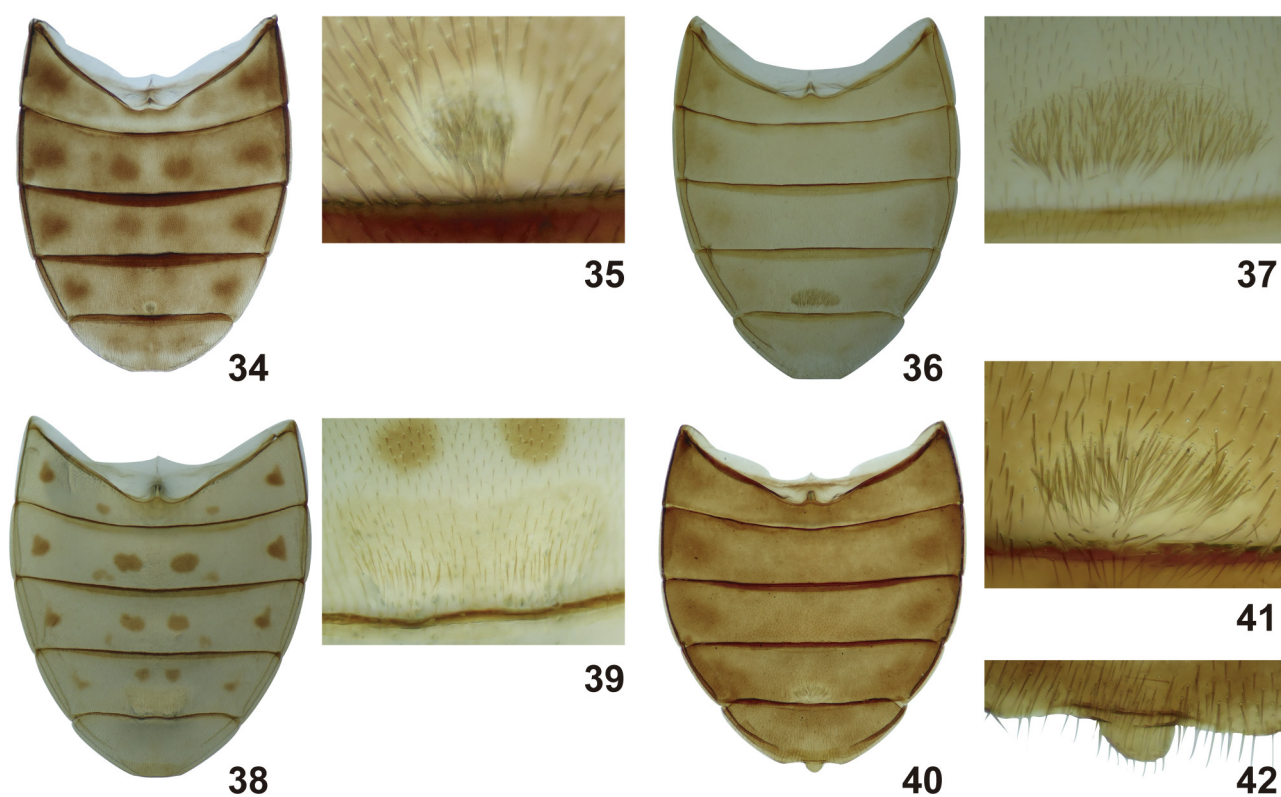
**FIGURES 9–15.** Mouthparts and heads of *Pseudomicrocara*. 9–10) *P. angusta* **sp. nov.**, mandible and labium; 11–13) *P. antarctica*, mandibles and labium; 14) *P. hieroglyphica* **sp. nov.**, male head; 15) *P. hieroglyphica* **sp. nov.**, female head.



**FIGURES 16–26.** Mandibles and labium of *Pseudomicrocara*. 16–18) *P. inflexipenis* sp. nov.; 19–20) *P. livida*; 21–23) *P. obliquata*; 24–26) *P. patagonica*.



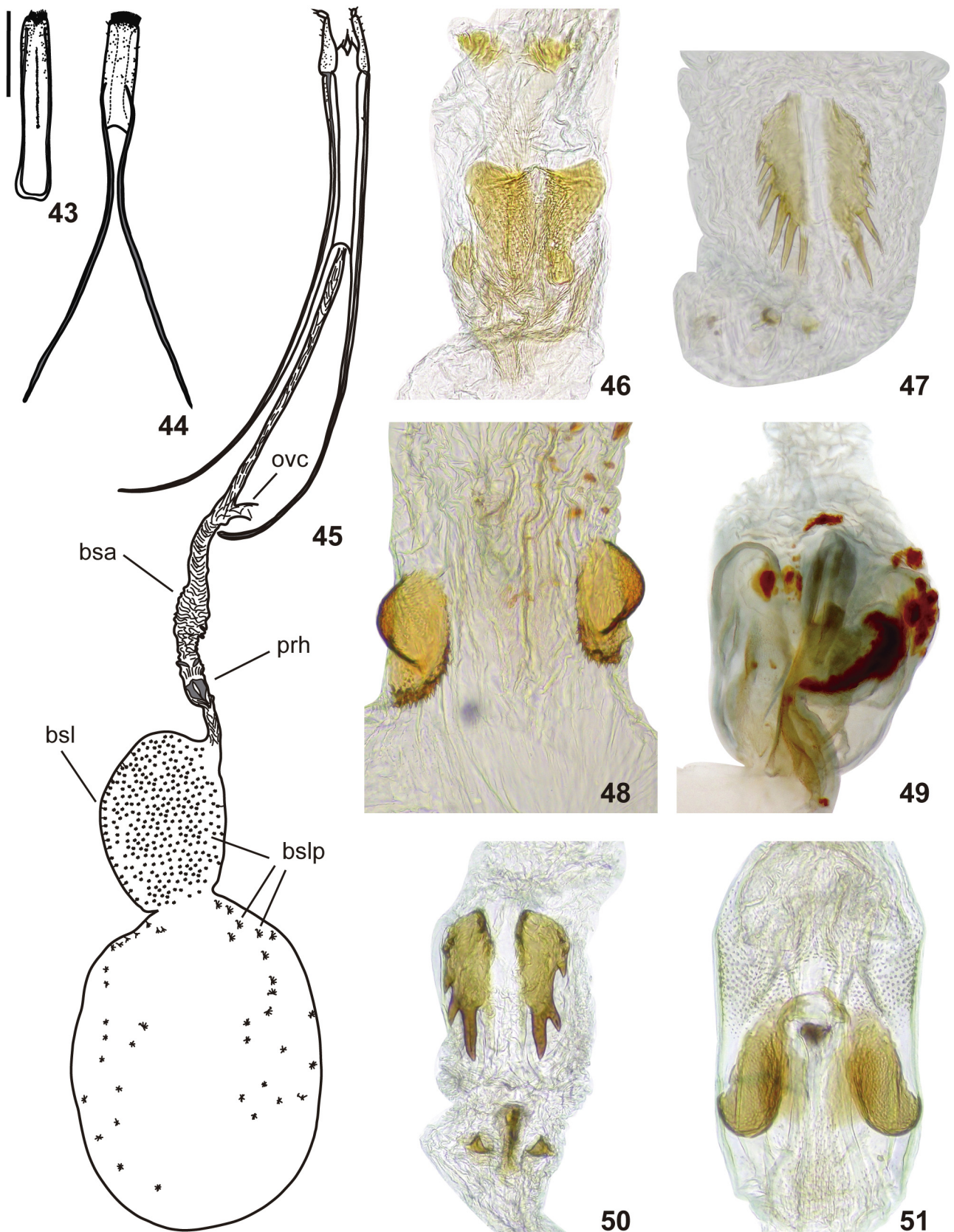
**FIGURES 27–33.** Pronota of *Pseudomicrocara*. 27) *P. angusta* sp. nov.; 28) *P. antarctica*; 29) *P. hieroglyphica* sp. nov.; 30) *P. inflexipenis* sp. nov.; 31) *P. livida*; 32) *P. obliquata*; 33) *P. patagonica*.



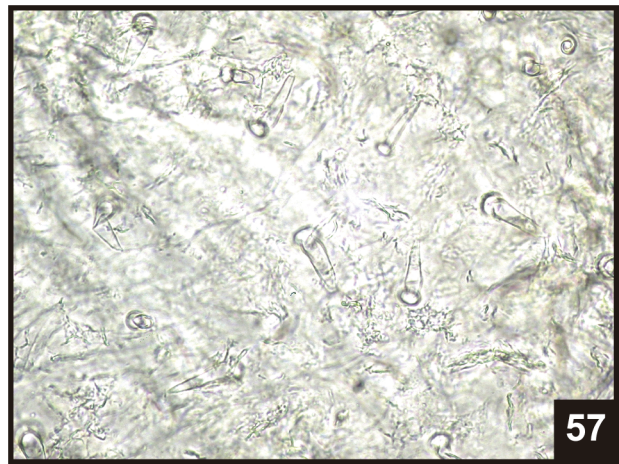
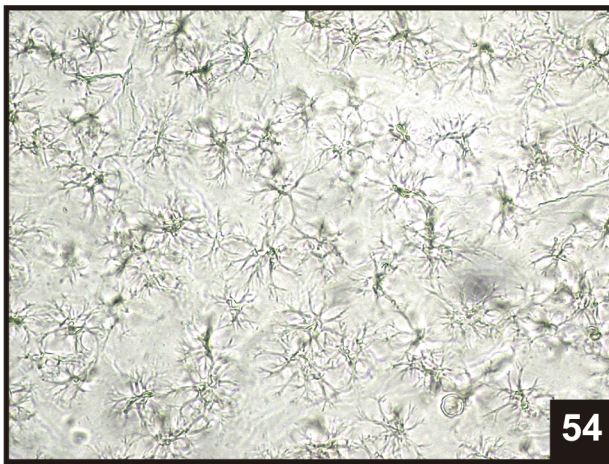
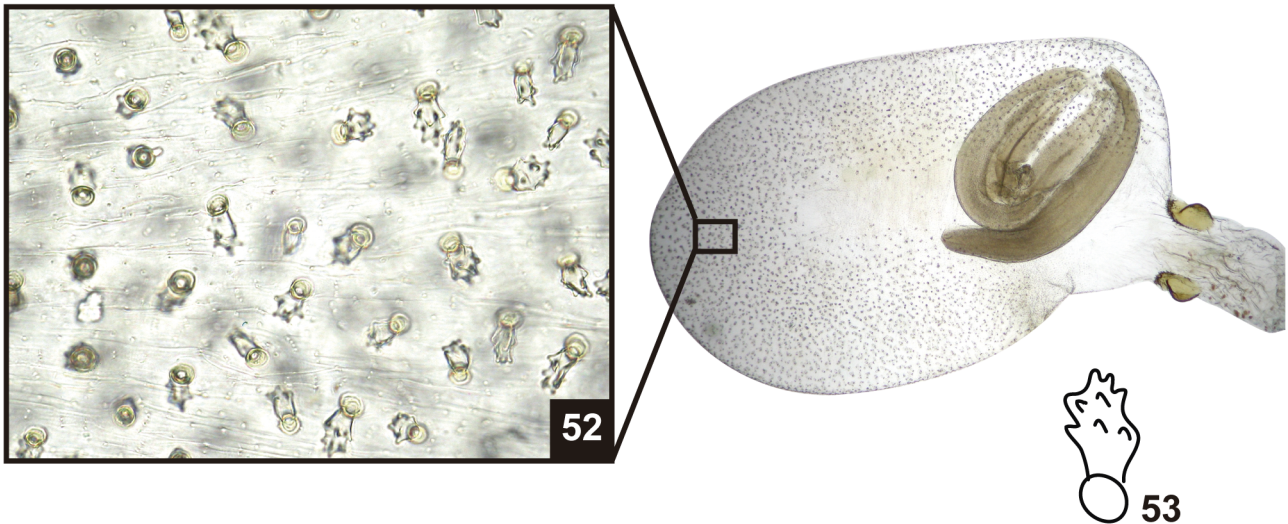
**FIGURES 34–42.** Sexual dimorphism in abdominal segments of *Pseudomicrocara*. 34) *P. angusta* sp. nov., female, abdomen; 35) *P. angusta* sp. nov., female, detail of patch of setae on ventrite 4; 36) *P. antarctica*, female, abdomen; 37) *P. antarctica*, female, detail of patch of setae on ventrite 4; 38) *P. hieroglyphica* sp. nov., female, abdomen; 39) *P. hieroglyphica* sp. nov., detail of patch of setae on ventrite 4; 40) *P. inflexipenis* sp. nov., female, abdomen; 41) *P. inflexipenis* sp. nov., detail of patch of setae on ventrite 4; 42) *P. inflexipenis* sp. nov., detail of posterior margin of ventrite 5.

**Description.** *Habitus.* Elongate, relatively narrow, elytral lateral margins subparallel, maximum width just behind middle, TL/EW: 2.17, EL/PL: 4.40.

*Head* 1.6 times as wide as interocular space; dark brown, with a testaceous area around the eye contiguous to a testaceous area around the antennal insertion; a pair of rounded foveae between eyes and a transversely elongate fovea behind it; clypeus 3 times as wide as long, 1.25 times as wide as labrum, clypeal margin straight. Punctuation granulate, fine, punctures separated by a single diameter. Head covered with yellowish setae. *Labrum* 2.0 times as wide as long, margins rounded, brown. *Antennae* filiform, brown, apices of segments 4–10 testaceous, approximate ratio of antennal segments: 1.75 : 1.0 : 1.25 : 3.0 : 2.75 : 2.75 : 2.75 : 2.75 : 2.5 : 2.75 : 2.75, L/W ratios of antennal



**FIGURES 43–51.** Female genital morphology of *Pseudomicrocara*. 43–46) *P. antarctica*: 43) sternite 8, 44) tergite 8, 45) ovipositor+genital tract (ovaries excluded) (scale bar = 0.5 mm), 46) prehensor; 47) *P. angusta* sp. nov., prehensor; 48) *P. hieroglyphica* sp. nov., prehensor; 49) *P. inflexipenis* sp. nov., prehensor; 50) *P. livida*, prehensor; 51) *P. patagonica*, prehensor. Abbreviations: bsa: bursa, bsl: bursella, bslp: bursella pores, ovc: common oviduct, prh: prehensor.



**FIGURES 52–59.** Bursella pores of *Pseudomicrocara*. 52–53) *P. hieroglyphica* **sp. nov.**; 54–55) *P. antarctica*; 56) *P. patagonica*; 57–58) *P. livida*; 59) *P. angusta* **sp. nov.**

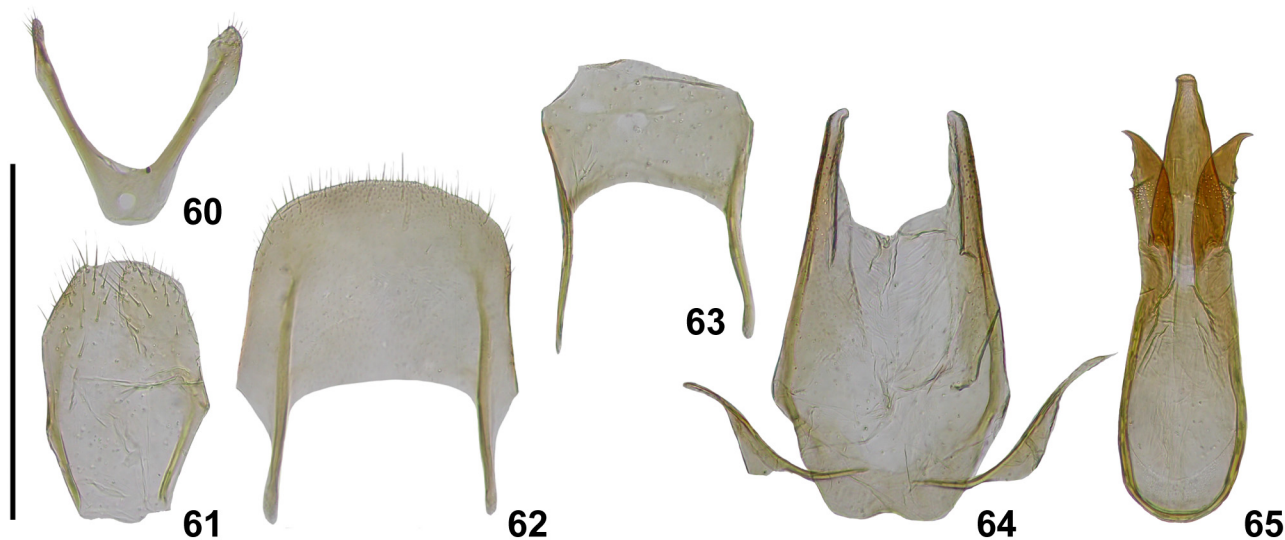
segments: 1.4, 1.3, 1.7, 4.0, 3.7, 3.7, 4.4, 5.5, 5.0, 5.5, 5.5. Segment 1 barrel-shaped, outer margin straight, inner margin curved; segment 2 barrel-shaped; segment 3 subconical; segments 4–11 subcylindrical, slightly widened to the apex; segment 4 2.4 times as long as segment 3. *Mandibles* symmetrical, lacking teeth, incisivus well developed, molar region with spines, brown, apex testaceous. *Maxillary palpi* elongate, brown, apices of segments testaceous.

*Thorax.* *Pronotum* 1.73 times as wide as long, trapezoidal, anterolateral angles rounded, maximum width at the base, yellow with an irregular brown central macula. Punctuation coarser than that on head, punctures separated by a single diameter. Pronotum completely covered with yellowish setae. Hypomeron yellow, outer branch of carina reaching front edge of procoxal cavity. *Scutellum* equilaterally triangular, apex pointed, brownish yellow. Ventral side of thorax, elytral epipleura and legs dark brown. Prosternal process elongate, very thin, somewhat widened at the tip. Mesoventrite with a groove-shaped fossa for the reception of prosternal process. Mesoventral process elongate, thin, separating middle coxae, apex simple, rounded. *Elytra* dark brown, completely covered with



relatively long yellowish setae, punctation coarser than that on head, pronotum and scutellum, punctures separated by 0.5–1.0 diameter, sometimes forming transverse lines. Each elytron with three slightly marked costulae.

*Abdomen* testaceous or brownish testaceous with brown maculae: ventrite 1 with one macula on each side, ventrites 2–4 each with one macula on each side and one central pair of maculae, ventrite 5 with one central pair of maculae. Ventrites completely covered with short yellowish setae. Apex of ventrite 5 truncate.



**FIGURES 60–65.** Male terminalia and genitalia of *P. angusta* sp. nov. 60) Sternite 8; 61) sternite 9; 62) tergite 8; 63) tergite 9; 64) tegmen; 65) penis. Scale bar = 0.5 mm.

*Male terminalia.* *Tergite 8* with a pair of subparallel sclerotized apodemes, without sclerotized cross-piece, posterior margin rounded, with setae. *Tergite 9* with a pair of sclerotized apodemes converging posteriorly up to a lightly sclerotized cross-piece and then diverging posteriorly, posterior margin rounded, without setae. *Sternite 8* V-shaped, anterior sclerotized region with a lightly sclerotized rounded area, anterior margin rounded, posterior apices with setae. *Sternite 9* slightly bilobed, with a pair of sclerotized apodemes widening posteriorly, posterior margin with setae.

*Male genitalia.* *Tegmen* with basal margin emarginate, parameres broad at base, narrowing posteriorly, external margins straight, apex acute, styli present. *Penis* with lateral margins of basal piece converging posteriorly, basal margin rounded, trigonium triangular with apex truncate, slightly curved ventrally, parameroids with a notch on the external margin, apex acute, pointing outwards.

*Female genitalia.* *Prehensor* composed of two symmetrical sclerites, each with a row of spines on the external margin. *Bursella* with pores producing into conical structures, each one with several distal spines.

*Sexual dimorphism.* Female with a rounded patch of setae on ventrite 4.

*Variation.* One specimen with apical third of elytra dark brown, rest of elytra yellowish.

**Measurements.** Males (n = 2): TL 4.28–4.32 (4.30), PL 0.77, PW 1.43, EL 3.55–3.71 (3.63), EW 1.89–1.97 (1.93). Females (n = 2): TL 4.44–4.55 (4.50), PL 0.85, PW 1.47, EL 3.74–3.94 (3.84), EW 2.05–2.08 (2.10).

**Etymology.** This species is named *angusta* from the Latin, meaning narrow, in reference to its relatively narrow body.

**Distribution.** This species has been found in Río Negro Province, in the following localities: Nahuel Huapi National Park, Grande stream; Nahuel Huapi National Park, Lower Manso River, Las Vertientes stream; and El Bolsón; and in Chubut Province, in the following locality: Puelo Lake.

***Pseudomicrocara antarctica* (Fairmaire, 1883), comb. nov.**

(Figs. 2, 11–13, 28, 36, 37, 43–46, 54, 55, 66–71)

*Cyphon antarcticus* Fairmaire, 1883: 493 (type locality: “Port S.-Elena” [Port Santa Elena, Chubut Province, Argentina]).

*Cyphon antarcticus*: Fairmaire 1889: 115.

*Helodes antarcticus*: Kolbe 1907: 71 (Tierra del Fuego).

*Cyphon antarcticus*: Pic 1914: 29 (checklist; Patagonia); Bruch 1914: 236 (checklist; Tierra del Fuego).

*Cyphon antarcticum*: Blackwelder 1944: 266 (checklist; Patagonia, Tierra del Fuego); Moroni 1985: 173 (provincia de Magallanes, Tierra del Fuego).

**Diagnosis.** Habitus elongate, TL: 3.51–5.11 mm. Body testaceous with a brown stripe along elytral suture (sometimes continued on the external elytral margin). Mandibles with spines on molar region, slightly asymmetrical, both toothed, tooth of right mandible larger than tooth of left mandible. Male terminalia: tergite 8 with a pair of sclerotized apodemes converging posteriorly, posterior margin broadly rounded, with setae; tergite 9 with a pair of subparallel sclerotized apodemes connected by a weakly sclerotized cross-piece, posterior margin bilobed, without setae; sternite 8 V-shaped, anterior margin rounded, with setae near posterior margin; sternite 9 with posterior margin rounded, a pair of sclerotized apodemes diverging posteriorly, with setae. Male genitalia: tegmen with basal margin emarginated, parameres broad at base, gradually narrowing to apex, styli present; lateral margins of basal piece subparallel, basal margin rounded, trigonium approximately triangular, apex truncate, parameroids approximately parallel sided, abruptly narrowed to the apex, apex rounded. Female genitalia: prehensor composed of a pair of symmetrical larger sclerites located anteriorly and a pair of symmetrical smaller sclerites located posteriorly; bursella with pores produced into cylindrical structures bearing several thin apical projections, resembling asterisks. Sexual dimorphism in abdominal ventrite 4: female with a patch of setae.

**Type material: 2 syntypes, male & female (MNHN):** *Cyphon* / *antarcticum* / Fairm [handwritten]; 2603/83 [round label, green on one side, white on the other].

**Additional specimens: Chubut Province:** Puelo Lake, 8.ii.1962, 12 exx., A. Kovacs (NHM). Turbio River, 24.vi.1962, 2 exx., A. Kovacs (NHM). Puelo Lake, 250 m, 22.x.1981, 6 exx., Nielsen & Karsholt (ZMUC). Tecka, Corcovado, 750 m, 17.ii.1979, 1 ex., Misión Científica Danesa (ZMUC). Aldea Escolar, 18.xii.2007, 13 exx., 2.i.2008, 9 exx., 4–5.i.2008, 7 exx., 12–13.i.2008, 5 exx., 14–15.i.2008, 13 exx., 16–20.i.2008, 3 exx., 28–29.i.2008, 3 exx., collected at light, leg. Miguel Archangelsky (PCML).

**Río Negro Province:** El Bolsón, 10.ix.1958, 1 ex., 12.x.1958, 1 ex., 5.xii.1958, 1 ex., 22.xi.1958, 1 ex., 10.xii.1958, 1 ex., 18.xii.1958, 1 ex., 20.xii.1958, 7 exx., 22.xii.1959, 2 exx., 27.xii.1959, 3 exx., 29.xii.1959, 2 exx., 4.xi.1960, 3 exx., 17.x.1961, 1 ex., 20.x.1961, 3 exx., 25.x.1961, 3 exx., 29.x.1961, 3 exx., 30.x.1961, 1 ex., 4.xi.1961, 13 exx., 6.xi.1961, 3 exx., 7.xi.1961, 1 ex., 29.xi.1961, 3 exx., 1.xii.1961, 2 exx., 29.xii.1961, 1 ex., 20.x.1962, 2 exx., 22.x.1962, 1 ex., 29.x.1962, 34 exx., 4.xi.1962, 21 exx., 10.xi.1962, 2 exx., 24.xi.1961, 13 exx., 29.xi.1961, 1 ex., 24.xi.1962, 28 exx., 27.xi.1962, 2 exx., 1.xii.1962, 4 exx., 3.xii.1962, 17 exx., 8.xii.1962, 5 exx., 27.xii.1962, 1 ex., 20.i.1963, 1 ex., A. Kovacs (NHM). Azul River, 6.xi.1961, 14 exx., 30.xi.1962, 20 exx., A. Kovacs (NHM). La Querencia, Bariloche, 1.i.1966, 2 exx., Axel M. Hemmingsen (ZMUC). Nahuel Huapi National Park, Lower Manso River, Las Vertientes stream, 41° 34' 3.7" S 71° 46' 19.8" W, 10.xi–1.xii.2008, 6 exx., Malaise, leg. Analía Garré & Fernanda Montes de Oca (NHM). Nahuel Huapi National Park, Medium Manso River, 41° 21' 16" S 71° 42' 27.3" W, 764 m, 11–30.xii.2006, 9 exx., 30.xii.2006–15.i.2007, 7 exx., Malaise, leg. Analía Garré & Fernanda Montes de Oca (NHM). Nahuel Huapi National Park, Ñireco River, 41° 11' 51.9" S 71° 19' 40.5" W, 962 m, 13–28.ii.2007, 2 exx., Malaise, leg. Analía Garré & Fernanda Montes de Oca (MLP). Nahuel Huapi National Park, Hess Lake, 29.x–19.xi.2008, 4 exx., Malaise, leg. Analía Garré & Fernanda Montes de Oca (MLP). Nahuel Huapi National Park, Hess Lake, 20.xi–23.xii.2008, 6 exx., Malaise, leg. Analía Garré & Fernanda Montes de Oca (MLP). Nahuel Huapi National Park, Hess Lake, 23.xii.2008–9.i.2009, 2 exx., Malaise, leg. Analía Garré & Fernanda Montes de Oca (MLP). Nahuel Huapi National Park, Hess Lake, 41° 22' 8.4" S 71° 44' 33.3" W, 15–20.i.2009, 1 ex., light trap, leg. Analía Garré & Fernanda Montes de Oca (MLP). Nahuel Huapi National Park, Llum stream, 41° 16' 13.3" S 71° 30' 56.7" W, 857 m, 4–25.i.2007, 1 ex., Malaise, leg. Analía Garré & Fernanda Montes de Oca (MLP). Nahuel Huapi National Park, Ñirihuau River, 41° 17' 35.1" S 71° 14' 26.3" W, 1044 m, 15–28.ii.2007, 1 ex., Malaise, leg. Analía Garré & Fernanda Montes de Oca (MLP).

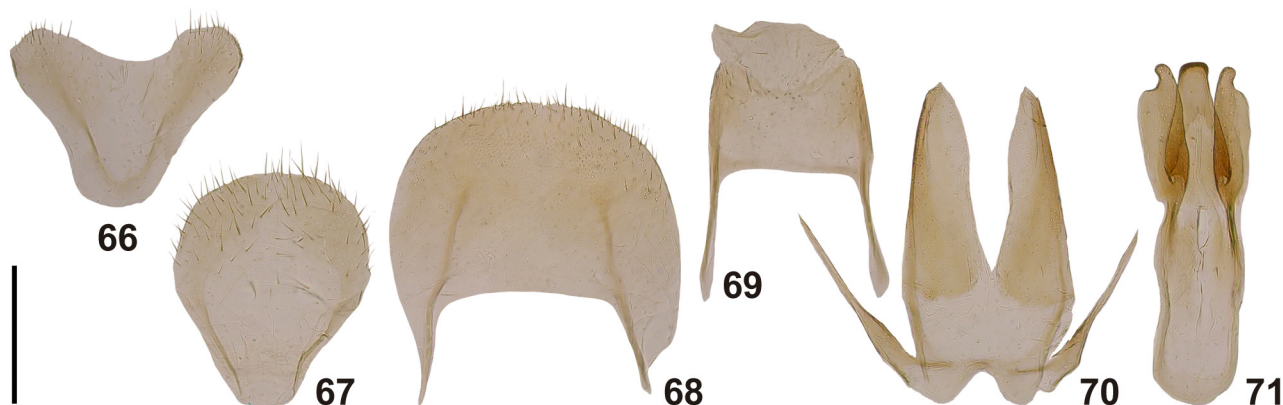
**Neuquén Province:** San Martín de los Andes, 640 m, 10–12.x.1981, 1 ex., Nielsen & Karsholt (ZMUC). Lácar Lake, Pucará, 650 m, 26–27.xii.1981, 1 ex., Nielsen & Karsholt (ZMUC).

**Distribution.** This species had only been reported from Tierra del Fuego Province. In the present study it is newly recorded from Chubut, Río Negro and Neuquén Provinces.

**Remarks.** This species shows great variation in size with TL ranging from 3.51 to 5.11 mm, certain variation in the strength of dorsal punctation and variation in the width of the trigonium apex relative to the width of the parameroid apex (the trigonium apex is between 1.5 and 2.0 times as wide as the parameroid apex), so what is

currently recognized as *P. antarctica* may be considered a complex of several cryptic species in the future. It could be confused with a new species (*P. inflexipenis*) here described (see below).

When comparing the Argentinean and Australian species, we have noticed that the male genitalia of *P. antarctica* (both the apex of the trigonium and the apex of the parameroïds) are very similar to those of members of the *P. variabilis* species-group. However, the pronotum is trapezoidal and the right mandible is toothed in *P. antarctica*, whereas in the *P. variabilis* species-group the pronotum is semicircular and the mandibles lack teeth.



**FIGURES 66–71.** Male terminalia and genitalia of *P. antarctica*. 66) Sternite 8; 67) sternite 9; 68) tergite 8; 69) tergite 9; 70) tegmen; 71) penis. Scale bar = 0.5 mm.

***Pseudomicrocara hieroglyphica* sp. nov.**

(Figs. 3, 14, 15, 29, 38, 39, 48, 52, 53, 72–77)

**Type material. Holotype, male (MLP):** Parque Nacional Nahuel Huapi, Mallín La Heladera, 41° 00' 56" S 71° 49' 45.4" W, 878 m, 7.i–4.ii.2007, Malaise, leg. Analía Garré & Fernanda Montes de Oca.

**Paratypes. 1 ex. (NHM, female):** same data as holotype. **1 ex. (ZMUC, male):** Rio Negro 8, Lago Nahuel Huapi, Puerto Blest, 770 m, 1.i.1979, Misión Científica Danesa. **1 ex. (ZMUC, male):** Rio Negro 22, Lago Nahuel Huapi, Puerto Blest, 770 m, 22–31.xii. 1981, Nielsen & Karsholt.

**Description. Habitus.** Elongate-oval, elytral lateral margins rounded, maximum width at the middle of elytral length, TL/EW: 2.00, EL/PL: 5.41.

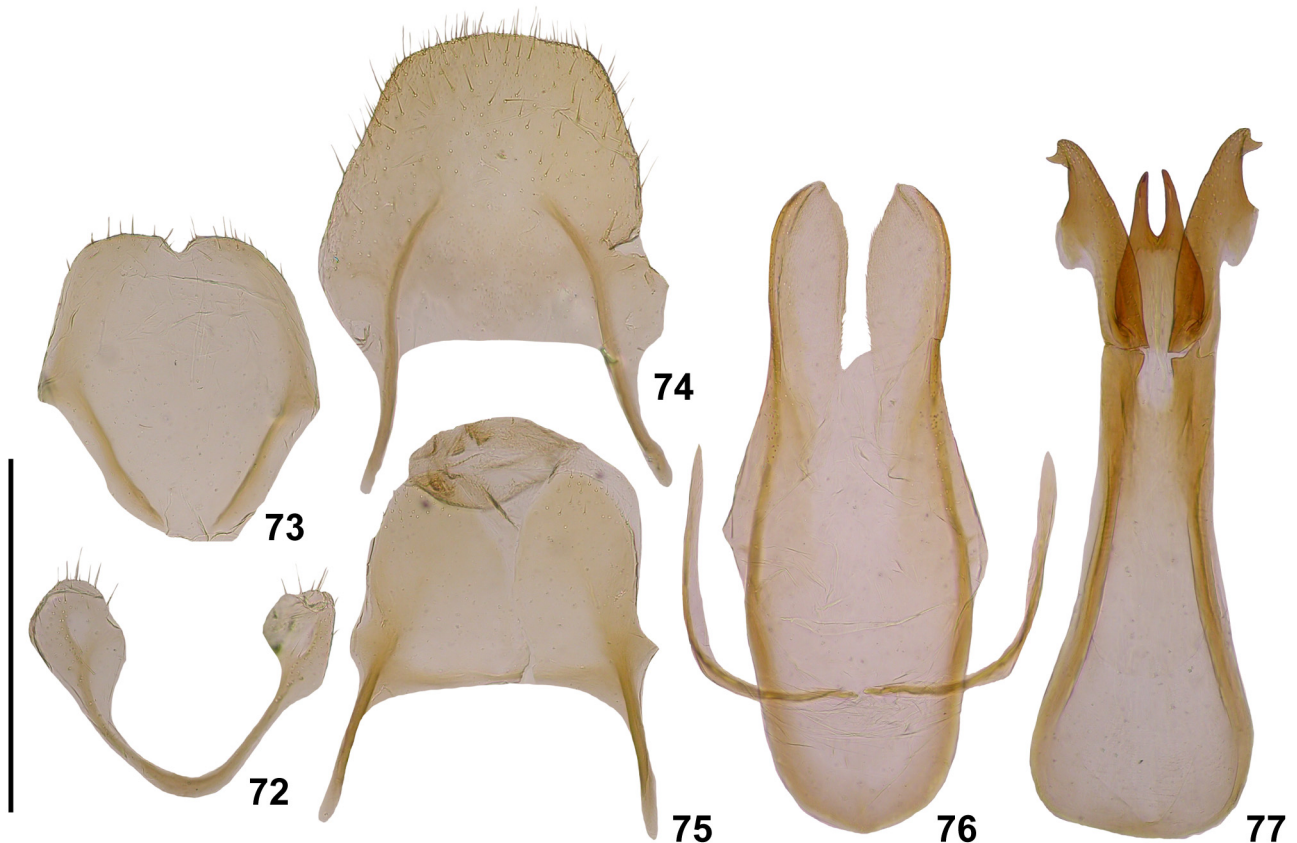
**Head.** 1.60 times as wide as interocular space; pale testaceous; with a pair of foveae; with a brown macula composed of three fused triangular spots: one located posteriorly with basal edge along basal part of head, united to a pair of symmetrical ones ending between antennal bases; clypeus 2.67 times as wide as long, 1.14 times as wide as labrum, with a transversely elongate brownish macula, margin straight. Punctuation fine, punctures separated by a single diameter. Head covered with yellowish setae. **Labrum** 2.00 times as wide as long, margins rounded, pale testaceous with a transversely elongate brownish macula. **Antennae** filiform, segment 1 brownish testaceous, segments 2–3 testaceous, segments 4–11 brown with testaceous bases, approximate ratio of antennal segments: 2.3 : 1.0 : 1.0 : 3.5 : 3.0 : 3.5 : 3.5 : 3.5 : 3.5 : 3.3 : 3.5, L/W ratio of antennal segments: 1.5, 1.0, 1.3, 3.5, 2.7, 3.1, 3.5, 3.5, 4.5, 4.3, 4.7. Segment 1 subcylindrical, with small ridge near apex, margins curved, internal margin more curved than external one; segment 2 subspherical, approximately as long as wide; segment 3 subconical; segments 4–11 subcylindrical, segment 4 3.5 times as long as segment 3. **Mandibles** asymmetrical, right mandible with one tooth, left mandible without teeth, incisivus developed, testaceous. **Maxillary palpi** with segments 1–2 brown, apex testaceous, segment 3 testaceous.

**Thorax. Pronotum** 2.12 times as wide as long, trapezoidal, anterolateral angles rounded, maximum width at the base, testaceous, with a brown macula seeming to be composed of a central V-shaped macula fused to a transversely elongate posterior macula, plus two rounded maculae on each side, at the level of the former one. Punctuation coarser than that on head, punctures separated by a single diameter. Pronotum completely covered with yellowish setae. Hypomeron pale testaceous, outer branch of carina reaching front edge of procoxal cavity. **Scutellum** triangular, apex pointed, pale testaceous, punctuation similar to pronotal punctuation. Prosternum pale

testaceous; remaining ventral structures pale testaceous with brown edges. Legs pale testaceous, apex of femur, apex of tibia and tarsus brownish. Basal half of posterior coxae brown. Prosternal process laminar, widened laterally at the tip. Mesoventrite with a rhomboidal fossa. Mesoventral process elongate, separating middle coxae, apex simple, rounded. Each *elytron* with a pale testaceous stripe along suture and four pale testaceous longitudinal-oblique stripes interspersed with five wider brown stripes. Each of the four testaceous stripes, except for the sutural one, is on a costula. Sutural stripe branching near anterior margin resulting in a stripe reaching scutellum and a short oblique stripe. First stripe (closer to the sutural stripe) beginning at the anterior elytral margin, continuing obliquely and ending in the middle third. Second to fourth stripes beginning together from a testaceous area on the humerus. Second stripe ending before apex. Third stripe ending at elytral apex. Fourth stripe going along external margin about one fourth of elytral length, then separating from the margin, going parallel to third stripe and ending at the same level of second stripe touching external margin. Brown stripes transversely interrupted by three groups of irregular pale maculae, resulting in approximately rectangular maculae. In second, third and fourth stripe, between the first two groups of pale maculae, rectangular brown maculae bearing a paler rectangular macula inside are present. Elytra completely covered with setae, setae yellowish on pale areas, brownish on brown areas; punctuation coarser than that on head, pronotum and scutellum, punctures separated by 2.0 diameters.

*Abdomen.* Pale testaceous with brown maculae: ventrites 1–4 with a macula on each side, ventrites 2–4 with a pair of central maculae, ventrites 1–3 with an additional macula near posterior margin. Ventrites completely covered with short yellowish setae.

*Male terminalia.* *Tergite 8* with a pair of sinusoidal sclerotized apodemes, without sclerotized cross-piece, posterior margin rounded, with setae. *Tergite 9* with a pair of sclerotized apodemes converging posteriorly, with a sclerotized cross-piece, posterior margin trapezoidal, with setae. *Sternite 8* U-shaped, anterior margin rounded, posterior apices widened, diverging posteriorly, with setae. *Sternite 9* bilobed, with a pair of sclerotized apodemes widening posteriorly, posterior margin with setae.



**FIGURES 72–77.** Male terminalia and genitalia of *P. hieroglyphica* sp. nov. 72) Sternite 8; 73) sternite 9; 74) tergite 8; 75) tergite 9; 76) tegmen; 77) penis. Scale bar = 0.5 mm.

*Male genitalia.* Tegmen with lateral margins slightly diverging posteriorly, basal margin rounded, parameres broad, styli present. Penis with basal piece with lateral margins converging posteriorly to the middle of basal piece and then continuing parallel, basal margin almost straight, trigonium bifid, parameroids widened at middle, apex bird-head-shaped.

*Female genitalia.* Prehensor composed of two sclerites, internal margin with minute spines. Bursella with pores producing into finger-like spiny projections.

*Sexual dimorphism.* Female with patch of setae on ventrite 4. Maxillary palpi wider in female than in male; last segment of maxillary palpi conical in female, cylindrical in male.

**Measurements.** Male (n = 1): TL 5.21, PL 0.83, PW 1.75, EL 4.48, EW 2.48. Female (n = 1): TL 5.65, PL 0.87, PW 2.05, EL 5.02, EW 2.82.

**Etymology.** This species is named *hieroglyphica* in reference to its elytral color pattern resembling the Egyptian writing.

**Distribution.** The specimens belonging to this species have been found in the following localities: Nahuel Huapi National Park, Mallín La Heladera (Neuquén Province); Nahuel Huapi Lake, Puerto Blest (Río Negro Province).

**Remarks.** Due to peculiar coloration of dorsum, the species cannot be confused with any other Argentinean *Pseudomicrocara*.

### ***Pseudomicrocara inflexipenis* sp. nov.**

(Figs. 4, 16–18, 30, 40–42, 49, 78–83)

**Type material. Holotype, male (MLP):** Parque Nacional Nahuel Huapi, Río Manso medio, 41° 21' 16" S 71° 42' 27.3" W, 764 m, 11–30.xii.2006, Malaise, leg. Analía Garré & Fernanda Montes de Oca.

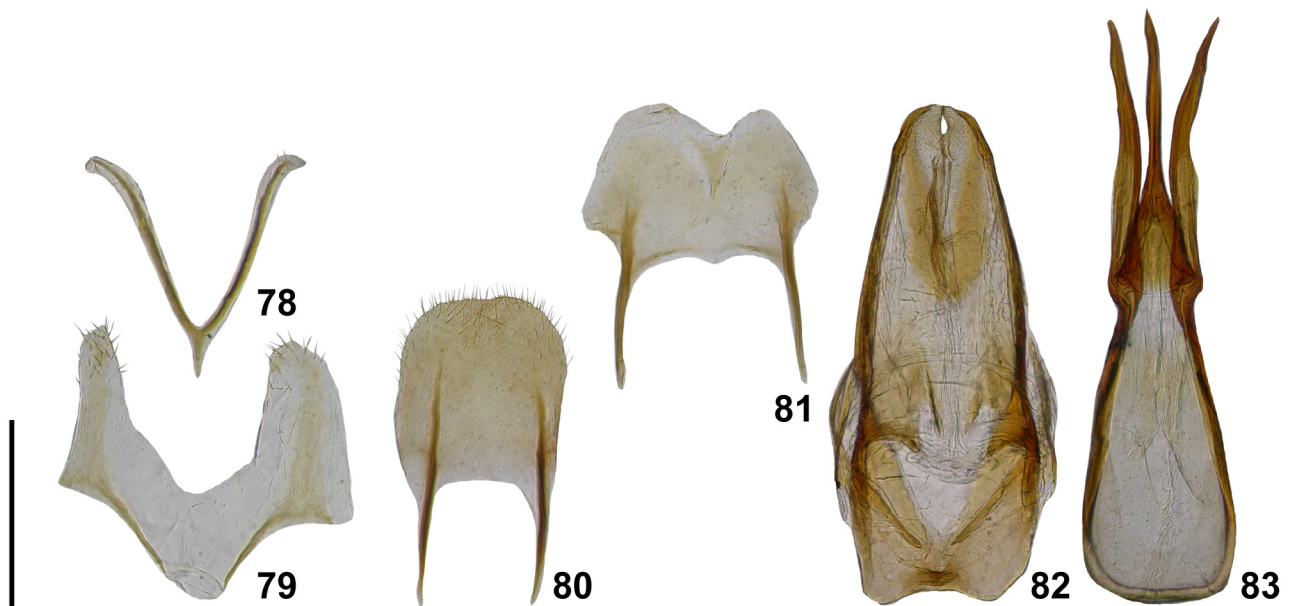
**Paratypes. 1 ex. (NHM, male):** same data as holotype. **3 exx. (NHM, males):** Parque Nacional Nahuel Huapi, Lago Hess, 20.xi–23.xii.2008, Malaise, leg. Analía Garré & Fernanda Montes de Oca. **1 ex. (MLP, female):** Parque Nacional Nahuel Huapi, Mallín La Cortadera, 41° 05' 13" S 71° 48' 26" W, 769 m, 8.i–3.ii.2007, Malaise, leg. Analía Garré & Fernanda Montes de Oca.

**Description. Habitus.** Elongate-oval, elytral lateral margins rounded, maximum width just behind middle, TL/EW: 1.73, EL/PL: 4.68.

*Head* 1.67 times as wide as interocular space; brownish testaceous; a pair of rounded foveae between eyes; clypeus 2.6 times as wide as long, 1.18 times as wide as labrum, clypeal margin straight. Punctuation fine, punctures separated by 2.0 diameters. Head covered with yellowish setae. *Labrum* 1.83 times as wide as long, margins rounded, testaceous. *Antennae* filiform, segments 1–3 testaceous, segments 4–11 brown with apices testaceous, approximate ratio of antennal segments: 1.50 : 1.00 : 1.25 : 2.50 : 2.25 : 2.50 : 2.50 : 2.50 : 2.75 : 3.00, L/W ratio of antennal segments: 1.2, 1.6, 1.7, 3.3, 3, 3.3, 3.3, 3.3, 3.7, 4.0. Segment 1 barrel-shaped, external margin straight, internal margin curved; segment 2 barrel-shaped; segment 3 subconical; segments 4–11 subcylindrical, slightly widened to the apex; segment 4 2.0 times as long as segment 3. *Mandibles* asymmetrical, right mandible with one tooth, left mandible without teeth, incisivus developed, molar region with spines, brownish testaceous basally, testaceous apically. *Maxillary palpi* elongate, testaceous.

*Thorax.* *Pronotum* 2.0 times as wide as long, trapezoidal, anterolateral angles rounded, widest at the base, testaceous. Punctuation coarser than that on head, punctures separated by 1–2 diameters. Pronotum completely covered with yellowish setae. Hypomeron testaceous, outer branch of carina reaching front edge of procoxal cavity. *Scutellum* almost equilaterally triangular, apex pointed, testaceous, punctuation similar to that on pronotum. Prosternum brownish testaceous, propleura, mesoventrite, mesopleura, metaventrite and metapleura testaceous with brown edges. Legs testaceous. Prosternal process laminar, thin, widened at the tip. Mesoventrite with a groove-shaped excavation. Mesoventral process elongate, thin, separating middle coxae, apex simple, rounded. *Elytra* testaceous with a brown stripe along suture, turning externally just before apex and continuing along external margin, narrowing until ending at mid length. Elytra completely covered with yellowish setae, punctuation coarser than that on head, pronotum and scutellum, punctures separated by 0.5–1.0 diameter.

*Abdomen.* Brownish testaceous with lateral areas brown. Ventrites completely covered with short yellowish setae.



**FIGURES 78–83.** Male terminalia and genitalia of *P. inflexipenis* sp. nov. 78) Sternite 8; 79) sternite 9; 80) tergite 8; 81) tergite 9; 82) tegmen; 83) penis. Scale bar = 0.5 mm.

*Male terminalia.* Tergite 8 with a pair of subparallel sclerotized apodemes, without sclerotized cross-piece, posterior margin rounded, with setae. Tergite 9 with a pair of sclerotized apodemes slightly converging posteriorly, with a lightly sclerotized cross-piece, posterior margin bilobed, with setae. Sternite 8 V-shaped, relatively thin, anterior margin pointed, posterior apices with setae. Sternite 9 strongly bilobed, with a pair of sclerotized apodemes widening posteriorly, posterior margin with setae.

*Male genitalia.* Tegmen with basal margin emarginate, parameres broad at base, slightly narrowing to the apex, styli absent. Penis with basal piece relatively long, lateral margins almost straight, converging posteriorly, basal margin almost straight, trigonium triangular from base to middle, then continuing in an elongate projection with apex pointed, bent ventrally in an angle of 90–100°, parameroids very elongate, apex pointed.

*Female genitalia.* Prehensor very slightly sclerotized, only distinguished by an area composed of many rows of spinulae. Bursella with pores producing into cylindrical structures bearing several thin apical projections, resembling asterisks.

*Sexual dimorphism.* Female with patch of setae on ventrite 6, and a projection on ventrite 5.

**Measurements.** Males (n = 5): TL 3.44–4.01 (3.86), PL 0.66–0.85 (0.76), PW 1.31–1.58 (1.48), EL 2.82–3.55 (3.31), EW 1.85–2.32 (2.14). Female (n = 1): TL: 4.40, PL 0.89, PW 1.66, EL 3.82, EW 2.47

**Etymology.** This species is named *inflexipenis* from the Latin word *inflexus*, meaning bent, + *penis*, in reference to the bent or curved apex of the trigonium of the penis of males.

**Distribution.** This species has been collected in Río Negro Province. Locality data are as follows: Nahuel Huapi National Park, Medium Manso River; Nahuel Huapi National Park, Mallín La Cortadera; Nahuel Huapi National Park, Hess Lake.

**Remarks.** *Pseudomicrocara inflexipenis* could be confused with *P. antarctica* because they share similar coloration. However, we have found several differences: 1) head and pronotum relatively wider in *P. antarctica*; 2) mandibles in *P. antarctica* slightly asymmetrical, one-toothed; mandibles in *P. inflexipenis* completely asymmetrical, right mandible having one tooth and left mandible lacking teeth; 3) female of *P. antarctica* lacking projection on posterior margin of ventrite 5; 4) completely different morphology of male genitalia.

### ***Pseudomicrocara livida* (Fabricius, 1775)**

(Figs. 5, 19, 20, 31, 50, 57, 58, 84–89)

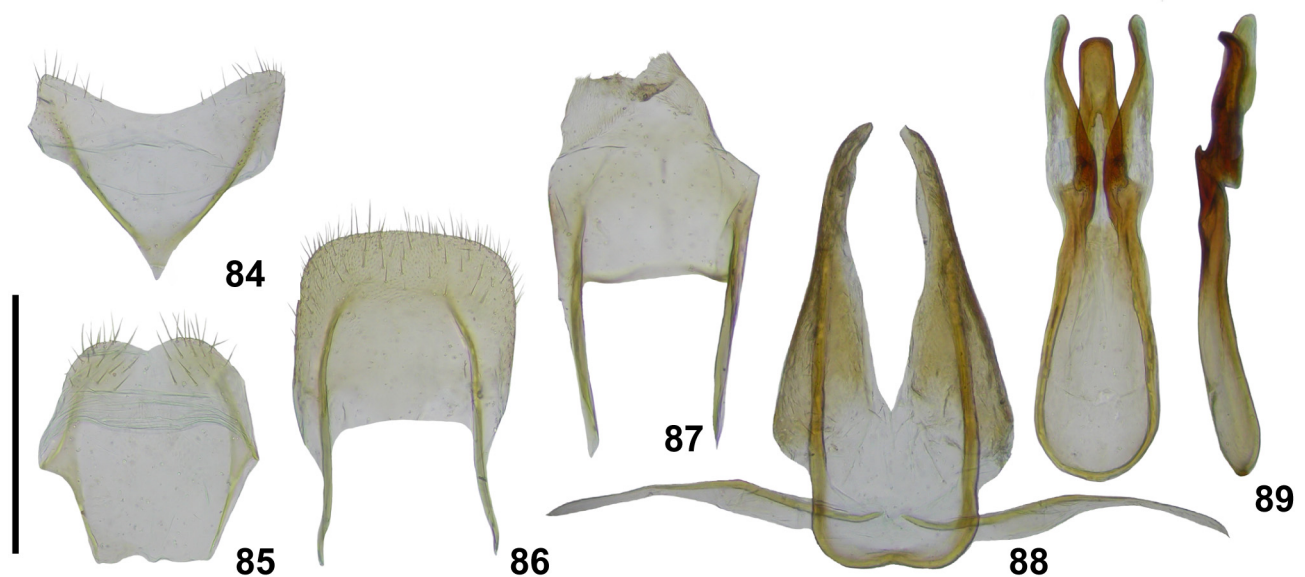
*Cistela livida* Fabricius, 1775: 116 (type locality: Tierra del Fuego).

*Dascillus lividus*: Guérin-Méneville 1849: 8 (transferred to *Dascillus* as doubtful species); Kolbe 1907: 71 (Strait of Magellan);

Bruch 1914: 236 (checklist; Tierra del Fuego).

*Pseudomicrocara livida*: Ruta 2013: 57 (redescription).

**Diagnosis.** Large size (TL: 5.34–6.02 mm; EW: 3.07–3.44 mm). Habitus elongate-broadly oval. Body color uniformly pale except for brown-maculated abdomen. Mandibles with spines on molar region, symmetrical, both lacking teeth. Male terminalia: tergite 8 with a pair of sclerotized apodemes converging posteriorly, posterior margin rounded, with setae; tergite 9 with a pair of subparallel sclerotized apodemes connected by a weakly sclerotized cross-piece, posterior margin bilobed, with setae; sternite 8 V-shaped, anterior margin pointed, with setae near posterior margin; sternite 9 with posterior margin bilobed, a pair of sclerotized apodemes widening posteriorly, with setae. Male genitalia: tegmen with basal margin emarginate, parameres broad at base, narrowing gradually to the middle, continuing very narrow to apex, apex acute, styli present; penis with lateral margins of basal piece converging posteriorly, basal margin rounded, trigonium with lateral margins slightly converging posteriorly to the middle of trigonium, continuing parallel to apex, apex truncate, curved ventrally, parameroids with one spine-like piece on each base, near internal margin, apex rounded. Female genitalia: prehensor composed of two symmetrical sclerites with a row of three to four spines on external margin, two symmetrical triangular sclerites and one elongated sclerite between the latter two; bursella with pores producing into cone-like structures lacking spines. Females lacking setal patch on ventrite 4.



**FIGURES 84–89.** Male terminalia and genitalia of *P. livida*. 84) Sternite 8; 85) sternite 9; 86) tergite 8; 87) tergite 9; 88) tegmen; 89) penis. Scale bar = 0.5 mm.

**Type material: Holotype, not sexed (NHM):** *Cistela livida* [handwritten] / Fab. Entom. [printed] p. 116 n. 2 [handwritten].

**Additional specimens: Tierra del Fuego Province:** Fagnano Lake, Kaiken, 100 m, 18–19.i.1979, 1 ex., Misión Científica Danesa (ZMUC). Ushuaia, Lapataia, 20 m, 27–28.i.1979, 3 exx., 29–31.i.1979, 3 exx., Misión Científica Danesa (ZMUC).

**Chubut Province:** Esquel, Menéndez Lake, El Sagrario Puerto, 2–4.i.1982, 600 m, 1 ex., Nielsen & Karsholt (ZMUC).

**Río Negro Province:** Nahuel Huapi National Park, Ñireco River, 41° 11' 51.9" S 71° 19' 40.5" W, 962 m, 23.i–18.ii.2007, 1 ex., Malaise, leg. Analía Garré & Fernanda Montes de Oca (MLP). Nahuel Huapi National Park, Grande stream, 41° 02' 21.6" S 71° 48' 27" W, 763 m, 4–25.ii.2007, 7 exx., Malaise, leg. Analía Garré & Fernanda Montes de Oca (NHM).

**Neuquén Province:** Paso Carirriñe, 15.ii.1966, 1 ex. (IADIZA). Pucará, october 1971, 2 exx. (IADIZA). Junín de los Andes, Laguna Verde, 1000 m, 11.iii.1979, 1 ex., Misión Científica Danesa (ZMUC). Nahuel Huapi National Park, Mallín La Heladera, 41° 00' 56" S 71° 49' 45.4" W, 878 m, 7.i–4.ii.2007, 8 exx., Malaise, leg. Analía Garré & Fernanda Montes de Oca (MLP).

**Distribution.** So far this species had only been found in Tierra del Fuego Province. Based on the material examined in this study, Neuquén, Río Negro and Chubut Provinces are added to the distribution range.

***Pseudomicrocara obliquata* (Solier, 1849), comb. nov.**

(Figs. 6, 7, 21–23, 32, 90–95)

*Cyphon obliquatum* Solier, 1849: 456 (type locality: provincias meridionales de Chile).

*Helodes obliquatus*: Gemminger & von Harold 1869: 1618; Kolbe 1907: 71 (Southern Chile).

*Cyphon obliquatus*: Pic 1914: 32 (checklist).

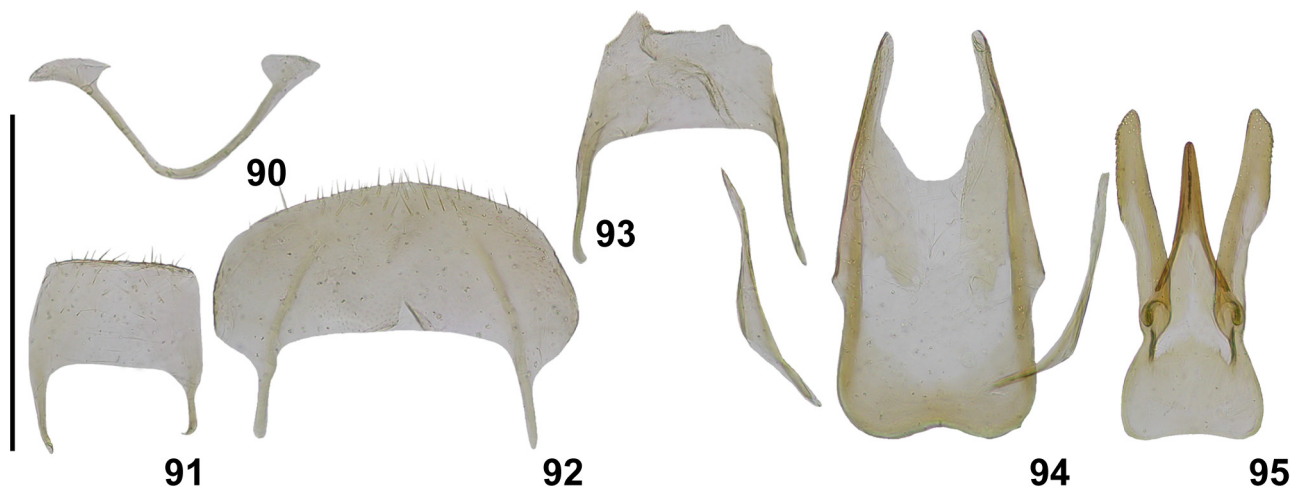
*Cyphon obliquatum*: Blackwelder 1944: 267 (checklist; Chile); Moroni 1985: 174 (Chile, Southern Provinces).

**Diagnosis.** Habitus suboval, TL: 3.55–3.67 mm; EW: 2.16–2.24 mm. Pronotum rectangular, anterior margin not curved. Elytra brownish to black with yellowish maculation consisting of three maculae. Two of them form an oblique stripe starting behind humerus and extending posteriorly to half length of elytra (these maculae are often fused); third macula close to suture, in anterior 1/3 of elytra, suture yellowish. Mandibles asymmetrical, right mandible one-toothed, left mandible without teeth, with spines on molar region. Male terminalia: tergite 8 with a pair of sclerotized apodemes subparallel, posterior margin rounded, with setae; tergite 9 with a pair of sclerotized apodemes not connected by a sclerotized cross-piece, posterior margin rounded, with setae; sternite 8 V-shaped, anterior margin rounded, with setae near posterior margin; sternite 9 with posterior margin rounded, a pair of sclerotized apodemes widening posteriorly, with setae. Male genitalia: tegmen with basal margin emarginate, parameres broad at base, narrowing gradually to the middle, continuing very narrow to apex, apex acute, styli present; penis with basal piece relatively short and broad, basal margin emarginate and lateral margins converging posteriorly, trigonium triangular, apex very acute, apical half of trigonium with longitudinal row of minute spines, parameroids with margins approximately parallel, external margin with minute spines, apex obliquely truncate.

**Type material: Holotype, not sexed (MNHN):** *Cyphon* / *obliquatum* / Sol. / Chili [handwritten].

**Additional specimens: Río Negro Province:** Nahuel Huapi National Park, Lower Manso River, 1.xii.2008–14.i.2009, 2 exx., Malaise, leg. Analía Garré & Fernanda Montes de Oca (MLP).

**Distribution.** So far this species had only been known to occur in Chile. It is newly reported from Argentina.



**FIGURES 90–95.** Male terminalia and genitalia of *P. obliquata*. 90) Sternite 8; 91) sternite 9; 92) tergite 8; 93) tergite 9; 94) tegmen; 95) penis. Scale bar = 0.5 mm.

***Pseudomicrocara patagonica* (Curtis, 1838), comb. nov.**

(Figs. 8, 24–26, 33, 51, 56, 96–101)

*Cyphon patagonicum* Curtis, 1838: 199 (type locality: “Port St. Elena” [Port Santa Elena, Chubut Province, Argentina]).

*Elodes patagonica*: Guérin-Méneville 1843: 15 (transferred to *Elodes* as doubtful species).

*Helodes patagonica*: Gemminger & von Harold 1869: 1619 (Patagonia).

*Cyphon patagonica*: Waterhouse 1881: 82 (Sandy Point).

*Cyphon patagonicus*: Fairmaire 1883: 493 (comparison to *antarcticus*); Fairmaire 1889: 115.

*Helodes patagonicus*: Kolbe 1907: 72 (Tierra del Fuego, Strait of Magellan: Punta Arenas, Patagonia).

*Cyphon patagonicus*: Pic 1914: 34 (checklist; Patagonia); Bruch 1914: 236 (checklist; Tierra del Fuego).



*Cyphon patagonicum*: Blackwelder 1944: 267 (checklist; Patagonia, Tierra del Fuego); Moroni 1985: 174 (provincia de Magallanes, Tierra del Fuego).

**Diagnosis.** Habitus elongate-oval, TL: 3.94–4.21 mm; EW: 2.08–2.24 mm. Head testaceous or brownish testaceous with three pairs of brown maculae: one pair of trapezoidal maculae between the eyes, one pair of rounded maculae between the antennae, and one pair of rounded maculae close to clypeal margin. In some cases the first two pairs of maculae are fused, appearing as one pair of triangular maculae. In some cases the maculae of the third pair are fused, then forming one transversely elongated macula along the clypeal margin. Pronotum testaceous with one central irregular brown macula and one rounded macula on each side. Elytra brownish testaceous. Abdomen testaceous with brown maculae: ventrites 1 and 5 with one pair of maculae, ventrites 2–4 with two pairs of maculae, ventrites 1–4 with additional markings near the posterior margin. Mandibles asymmetrical, right mandible one-toothed, left mandible lacking teeth, with spines on molar region. Segment 3 of labial palpus arising from apex of segment 2. Front edge of paraglossa bilobed. Male terminalia: tergite 8 with a pair of sclerotized apodemes converging posteriorly, posterior margin approximately straight, with setae; tergite 9 with a pair of subparallel sclerotized apodemes, posterior margin straight, with setae; sternite 8 V-shaped, anterior margin narrow, rounded, with setae near posterior margin; sternite 9 with posterior margin approximately straight, a pair of sclerotized apodemes diverging posteriorly and then converging, with setae. Male genitalia: tegmen with basal margin emarginate, parameres broad at base, narrowing gradually, apex acute, styli present; penis with basal piece with lateral margins subparallel, anterior margin rounded, trigonium with apex bifid, curved ventrally, parameroids narrowing to the tip, apex acute, pointing outwards. Female genitalia: prehensor composed of two symmetrical ear-shaped sclerites; bursella with pores producing into cylindrical structures having several thin apical projections, resembling asterisks. Females lacking setal patch on ventrite 4.

**Type material: Holotype, male (NHM):** *Cyphon* Curt. / *Patagonicum* [handwritten]; *Cyphon / patagonicum / Curtis / Port St. Elena* [handwritten]; Type [round label with red margin]; 63/49 [round blueish label].

**Additional specimens: Tierra del Fuego Province:** Fagnano Lake, Kaiken, 100 m, 18–19.i.1979, 7 exx., 21–24.i.1979, 8 exx., Misión Científica Danesa (ZMUC). Ushuaia, Lapataia, 20 m, 27–28.i.1979, 7 exx., 1–3.ii.1979, 3 exx., Misión Científica Danesa (ZMUC).

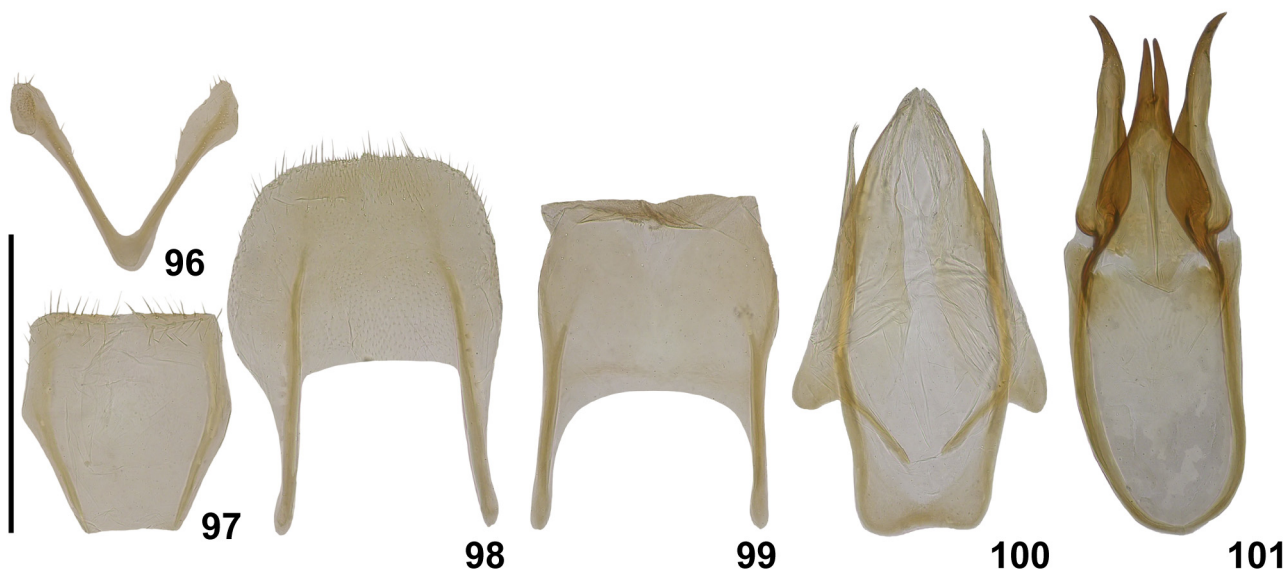
**Chubut Province:** Turbio River, 24.vi.1962, 1 ex., A. Kovacs (NHM). El Hoyo, x.1959, 1 ex., 24.x.1961, 1 ex., 7.ix.1962, 1 ex., A. Kovacs (NHM). Tecka, Corcovado, 750 m, 17–18.ii.1979, 3 exx., Misión Científica Danesa (ZMUC).

**Río Negro Province:** El Bolsón, 20.x.1959, 3 exx., 29.xi.1959, 3 exx., 9.ii.1960, 1 ex., 10.ii.1960, 5 exx., 4.xi.1960, 1 ex., 1.ii.1961, 1 ex., 9.ix.1961, 2 exx., 12.ix.1961, 1 ex., 30.ix.1961, 3 exx., 10.x.1961, 2 exx., 20.x.1961, 9 exx., 25.x.1961, 5 exx., 29.x.1961, 5 exx., 30.x.1961, 3 exx., 4.xi.1961, 7 exx., 30.xi.1961, 1 ex., 21.ix.1962, 1 ex., 10.x.1962, 1 ex., 20.x.1962, 8 exx., 29.x.1962, 13 exx., 4.xi.1962, 8 exx., 19.xi.1962, 3 exx., 24.xi.1962, 15 exx., 1.xii.1962, 6 exx., 3.xii.1962, 17 exx., 8.xii.1962, 1 ex., A. Kovacs (NHM). San Carlos de Bariloche, Colonia Suiza, 800 m, 13–17.x.1981, 2 exx., 22–23.x.1982, 4 exx. Nielsen & Karsholt (ZMUC). Nahuel Huapi National Park, Hess Lake, 29.x–19.xi.2008, 5 exx., Malaise, leg. Analía Garré & Fernanda Montes de Oca (MLP). Nahuel Huapi National Park, Hess Lake, 20.xi–23.xii.2008, 3 exx., Malaise, leg. Analía Garré & Fernanda Montes de Oca (MLP). Nahuel Huapi National Park, Lower Manso River, 1.xii.2008–14.i.2009, 1 ex., Malaise, leg. Analía Garré & Fernanda Montes de Oca (MLP). Nahuel Huapi National Park, Mallín La Cortadera, 41° 05' 13" S 71° 48' 26" W, 769 m, 8.i.2007/3.ii.2007, 5 exx., Malaise, leg. Analía Garré & Fernanda Montes de Oca (NHM).

**Neuquén Province:** Nahuel Huapi National Park, Mallín La Heladera, 41° 00' 56" S 71° 49' 45.4" W, 878 m, 7.i.2007/1–4.ii.2007, 5 exx., Malaise, leg. Analía Garré & Fernanda Montes de Oca (NHM).

**Distribution.** This species was previously only known from Tierra del Fuego Province. The species is newly recorded from Chubut, Río Negro and Neuquén Provinces.

**Remarks.** Port Santa Elena is located in 44° 31' S 65° 20' W, on the coast of the Argentinean Sea in Chubut Province (Servicio Geológico Minero Argentino, 2001). The species described by Curtis were collected by Captain King in the Survey of Strait of Magellan. In his narrative, King (1839) stated that he landed in Port Santa Elena. However, King (1839) and Martin de Moussy (1873) described the region near this port as arid and bare of vegetation, which makes it rather unsuitable for the presence of Scirtidae. Probably, the specimen examined by Curtis was found close to "Port St. Elena", but not necessary exactly in this locality.



**FIGURES 96–101.** Male terminalia and genitalia of *P. patagonica*. 96) Sternite 8; 97) sternite 9; 98) tergite 8; 99) tergite 9; 100) tegmen; 101) penis. Scale bar = 0.5 mm.

### Key to the Argentinean species of *Pseudomicrocara* Armstrong

- 1 Elytra unicolored, testaceous, brownish testaceous or dark brown. . . . . 2
- Elytra with distinct color pattern, at least suture has different color than elytra . . . . . 4
- 2 Elytra dark brown to black, pronotum yellow to orange with a brown central macula; habitus elongate, elytral margins subparallel; female with setal patch on ventrite 4; TL/EW>2. . . . . *P. angusta* sp. nov.
- Elytra testaceous or brownish testaceous, pronotum testaceous or brownish testaceous with or without maculae; habitus elongate-oval, elytral margins rounded; female without setal patch on ventrite 4; TL/EW<2 . . . . . 3
- 3 Testaceous, head and pronotum without maculae; trigonium simple; TL>5 mm. . . . . *P. livida* (Fabricius)
- Brownish testaceous, head with three pairs of brown maculae, pronotum with one central large macula and one small macula on each side; trigonium bifid; TL<5 mm . . . . . *P. patagonica* (Curtis)
- 4 Elytra testaceous with brown suture . . . . . 5
- Elytral pattern different, with partly or completely testaceous suture . . . . . 6
- 5 Right mandible with a single tooth, left mandible lacking teeth; apex of trigonium truncate . . . . . *P. antarctica* (Fairmaire)
- Both mandibles with a single tooth; apex of trigonium acute. . . . . *P. inflexipenis* sp. nov.
- 6 Elytra with pale testaceous suture and four pale testaceous longitudinal-oblique stripes interspersed with five wider brown stripes, each of these transversely interrupted by three rows of irregular pale maculae; elytra with four costulae; TL>5.0 mm . . . . . *P. hieroglyphica* sp. nov.
- Elytral pattern different, brown with one oblique pale macula located behind the humerus, approximately at the end of the basal quarter; elytra without costulae; TL<4.0 mm . . . . . *P. obliquata* (Solier)

### Discussion

*Pseudomicrocara* is known from southern South America, Australia (Watts 2007), New Guinea and New Caledonia (Ruta, unpublished data). This is the second known genus of Scirtidae with an austral disjunct distribution pattern. The first known case was *Stenocyphon* occurring in Chile and New Zealand (Ruta *et al.* 2011). Undescribed taxa related to *Stenocyphon* are known also from Australia. More similarities between temperate South American and Australian Scirtidae can be expected when South American Scirtidae are studied in detail.

The Argentinean geographical range of *Pseudomicrocara* is restricted to the southwestern part of Argentina, including Neuquén, Río Negro, Chubut and Tierra del Fuego Provinces. The absence of the genus in Santa Cruz Province is certainly due to lack of sampling efforts. In the western part of Patagonia there is a gradient of precipitation from west to east due to the interception by the Andes mountains of the humid winds of the South Pacific anticyclone, resulting in an arid climate just downwind. The distribution of the genus is not random but correlates with the amount of rainfall in these provinces.

Based on our results, it is inferred that the habitats preferred by the genus are Andean-Patagonian forests. In Argentina, there are four main types of Andean-Patagonian forests: *Araucaria* forest, deciduous forest, valdivian forest and magellanic forest. The *Araucaria* forest extends in the central-western part of Neuquén Province, between 900 and 1800 m in elevation, and it is dominated by *Araucaria araucana*, accompanied by *Nothofagus pumilio*. The deciduous forest is widely distributed in western territory from Neuquén to Tierra del Fuego and it is characterized by two deciduous species of *Nothofagus* (*N. antarctica* and *N. pumilio*) and a conifer, *Austrocedrus chilensis*. Besides these species, there are forests consisting of two additional deciduous species of *Nothofagus* (*N. procera* and *N. obliqua*) in the southern part of Neuquén Province. The valdivian forest, more largely distributed in Chilean territory, occurs in a narrow fringe next to the boundary with Chile, in Neuquén, Río Negro and Chubut Provinces. Its dominant species is an evergreen species of *Nothofagus* (*N. dombeyi*) that occurs near water bodies. The magellanic forest is dominated by *Nothofagus betuloides*, which is accompanied by *N. antarctica* and *N. pumilio*; it is located in the western part of Santa Cruz and the southern part of Tierra del Fuego (Cabrera 1971; Dirección de Bosques 2003). *Pseudomicrocara antarctica*, *P. livida* and *P. patagonica* are more widely distributed and are represented in the latter three types of Andean-Patagonian forests, with *P. livida* being the only species appearing near *Araucaria* forest. In contrast, *Pseudomicrocara angusta*, *P. hieroglyphica*, *P. inflexipennis* and *P. obliquata* seem to have a more restricted distribution, occurring mostly in wet forest of *Nothofagus dombeyi*.

As presently defined, *P. antarctica* presents a great variation in size, and minor differences both in elytral punctuation and penis shape. In spite of this, the differences are not clear enough to justify the recognition of different species. Future sampling, however, could lead to a reconsideration of this taxon. A similar situation occurs with several Australian species (Watts 2007).

**TABLE 1.** Distribution of selected characters of Argentinean *Pseudomicrocara*.

	pronotum	mandibles	apex of trigonium	apex of parameroids	prehensor	projections of bursella
<i>P. livida</i>	subtrapezoidal	both without teeth	truncate	rounded	with two sclerites with a row of spines on outer edge	subconical
<i>P. angusta</i>	subtrapezoidal	both without teeth	truncate	acute, pointing outwards	with two sclerites with a row of spines on outer edge	subconical
<i>P. obliquata</i>	subrectangular	right with one tooth	acute	obliquely truncate	?	?
<i>P. patagonica</i>	subtrapezoidal	right with one tooth	acute	elongate, apex acute, pointing outwards	with sclerites lacking a row of spines on outer edge	cylindrical, bearing several thin apical outgrowths, resembling asterisks
<i>P. hieroglyphica</i>	subtrapezoidal	right with one tooth	acute	elongate, apex acute, pointing outwards	lacking a row of spines on outer edge <sup>1</sup>	spiny, finger-like
<i>P. inflexipennis</i>	subtrapezoidal	right with one tooth	acute	elongate, apex acute, pointing outwards	with sclerites lacking a row of spines on outer edge	cylindrical, bearing several thin apical outgrowths, resembling asterisks
<i>P. antarctica</i>	subtrapezoidal	each with one tooth	truncate	rounded	with sclerites lacking a row of spines on outer edge	cylindrical, bearing several thin apical outgrowths, resembling asterisks

<sup>1</sup>In this case there are relatively small spines on the anterior part of the inner edge of the sclerites.

Watts (2007) arranged the Australian species of *Pseudomicrocara* into five species groups (plus three ungrouped species) based on the shape of the pronotum, the presence of teeth on the inner margin of the mandible, the presence of a group of spines on the molar region of the mandible, the degree of extension of the area covered by these spines, the shape of the front edge of the paraglossa, the morphology of the aedeagus, and the presence of

styli. Unlike the Australian species, the Argentinean species have a rather uniform, subtrapezoidal pronotum, the area of spines on the molar region is similarly extended, the last segment of the labial palpus arises from the apex of the penultimate segment, and the paraglossa is bilobed.

Grouping species into species-groups is somewhat premature with the present knowledge of the genus *Pseudomicrocara* in South America. However, we have found some characters that may be helpful for future recognition of species groups or subgenera (Table 1).

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